

**CALOMELA NIGRIPENNIS LEA, A VALID SPECIES (COLEOPTERA: CHRYSOMELIDAE)**

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**Abstract**

*Calomela nigripennis* Lea is recognised as a valid species, redescribed and distinguished from similar species in the genus, particularly *C. pulchella* (Baly) and *C. ruficeps* (Boisduval). A lectotype is designated for *C. nigripennis*, which is known from a few localities in near-coastal south central Queensland.

**Introduction**

The genus *Calomela* Hope was revised by Selman (1979), who included 23 Australian species. An additional species has been described recently (Reid 1989). In his revision, Selman examined the syntypes of *C. nigripennis* Lea and placed this species in synonymy with *C. ruficeps* (Boisduval). In the course of databasing part of the Australian National Insect Collection (ANIC), Canberra, I have examined the types of *C. nigripennis* and have found that they represent a valid species which is similar to *C. pulchella* (Baly) and *C. ruficeps*. *Calomela nigripennis* is redescribed below and compared with its congeners, especially *C. pulchella* and *C. ruficeps*.

*Calomela nigripennis* has appendiculate claws which, according to the generic key (Selman 1979), place it *Carystea* Baly. However, although Selman distinguished *Carystea* from *Calomela* by the bifid claws of the latter, he included three species with appendiculate claws in *Calomela* (*C. distinguenda* Blackburn, *C. maculicollis* (Boisduval), *C. satelles* Blackburn). *Calomela nigripennis* is most similar to *C. pulchella*, which has bifid claws and I see no reason to place these species in separate genera. Claw shape is not a reliable generic character in Chrysomelinae and the Australian genera need to be redescribed.

***Calomela nigripennis* Lea**

*Calomela nigripennis* Lea 1903: 404; Selman 1979: 566 (as junior synonym of *C. ruficeps*). LECTOTYPE ♀ (here designated), labelled: "Rockhampton Queensland" "On permanent loan from Macleay Museum, University of Sydney", and my lectotype label (ANIC). PARALECTOTYPE ♀, same data as lectotype, my paralectotype label and with spermatheca glued separately on card (ANIC). This specimen has two additional labels: a printed 'type' label and handwritten '*Calomela nigripennis* Lea type Rockhampton'. I have designated the other specimen as lectotype because it is undissected.

*Colour and size.* Head, pronotum, legs and segments 1-4 of antennae dark red to reddish brown. Venter and apical segments of antennae darker. Elytra black with dark metallic green reflection. Body length 5.7-7.0 mm.

*Morphology.* Head and pronotum (Fig. 1) strongly and closely punctured, punctures at sides of pronotum larger and tending to coalesce in irregular pits. Antennae subincrassate, segments 6-11 expanded. Apical segment of maxillary palp securiform. Eyes entire. Pronotum: breadth more than twice length along midline; sides and front narrowly margined; sides strongly and evenly curved and strongly produced anteriorly. Venter of prothorax: a deep groove present, curving posteriorly from anterior junction of prosternum and pronotum (notopleural suture of Selman, 1979); prosternal process strongly punctured, raised, and expanded at bilobed tip. Scutellum (Fig. 1) triangular with rounded apex. Elytra (Fig. 1) strongly convex in profile, basal half parallel sided; irregularly striate on disc, striae punctures fine and in irregular double rows, diameter much less than interspaces; each elytron with at least two deep depressions, one behind humerus, one midway between this and suture. Claws (Fig. 2) appendiculate, i.e. with a basal triangular tooth projecting from ventral surface.

*Male.* Apical ventrite (Fig. 3): broad emargination at apex without lateral teeth; central disc feebly impressed, with dense, fine pubescence; ventrites 3 and 4 also with small median patch of setiferous punctures. Penis (Figs. 5-7) short and broad, apex almost evenly rounded and not produced in profile, without external flagellum; middle of ventral wall uniformly weakly sclerotised; internal ejaculatory guide with an ovate ventral sclerite and two broad membranous sclerites projecting from ostium.

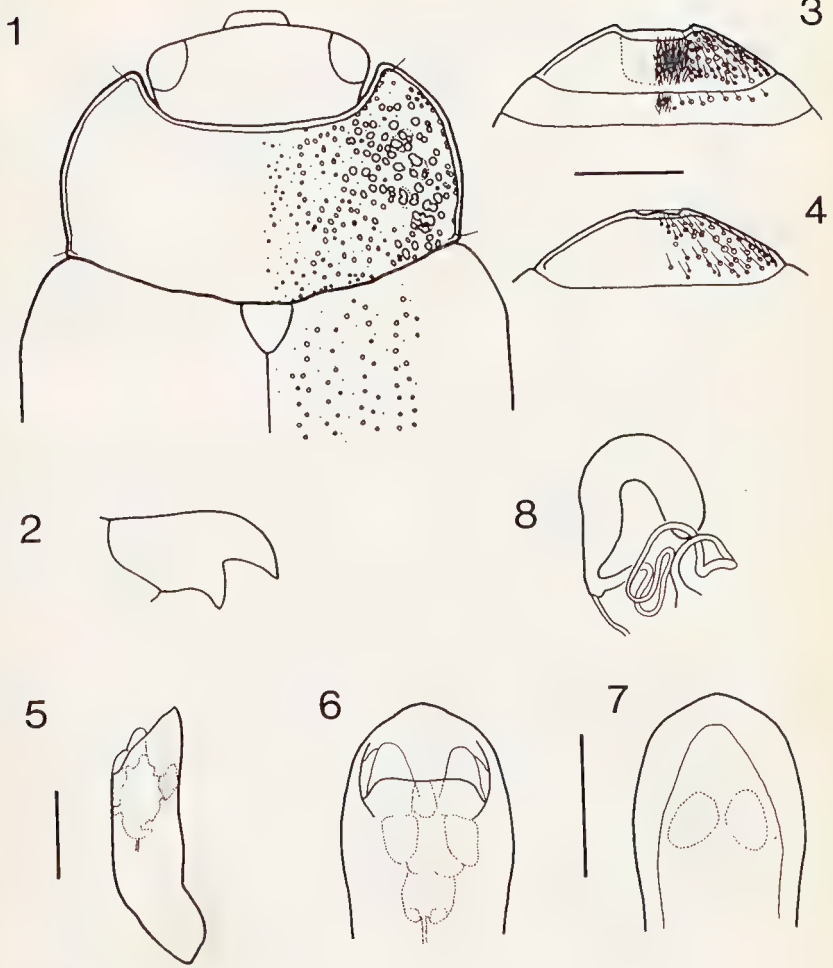
*Female.* Apical ventrite (Fig. 4): narrow emargination at apex without lateral teeth; central disc simple, sparsely punctate. Spermatheca (Fig. 8) U-shaped, of even width, transversely reticulate; duct loosely coiled.

*Distribution and biology.* Additional material (8, all ANIC): Queensland: Eidsvold, Lotus Creek, Millmerran, Theodore. The localities are dispersed in the coastal region of south-central Queensland (Fig. 25), a distribution which overlaps with the north-western limits of *C. pulchella* and *C. ruficeps*. No host plants are recorded but both *C. pulchella* and *C. ruficeps* feed on *Acacia* species (Reid 1989).

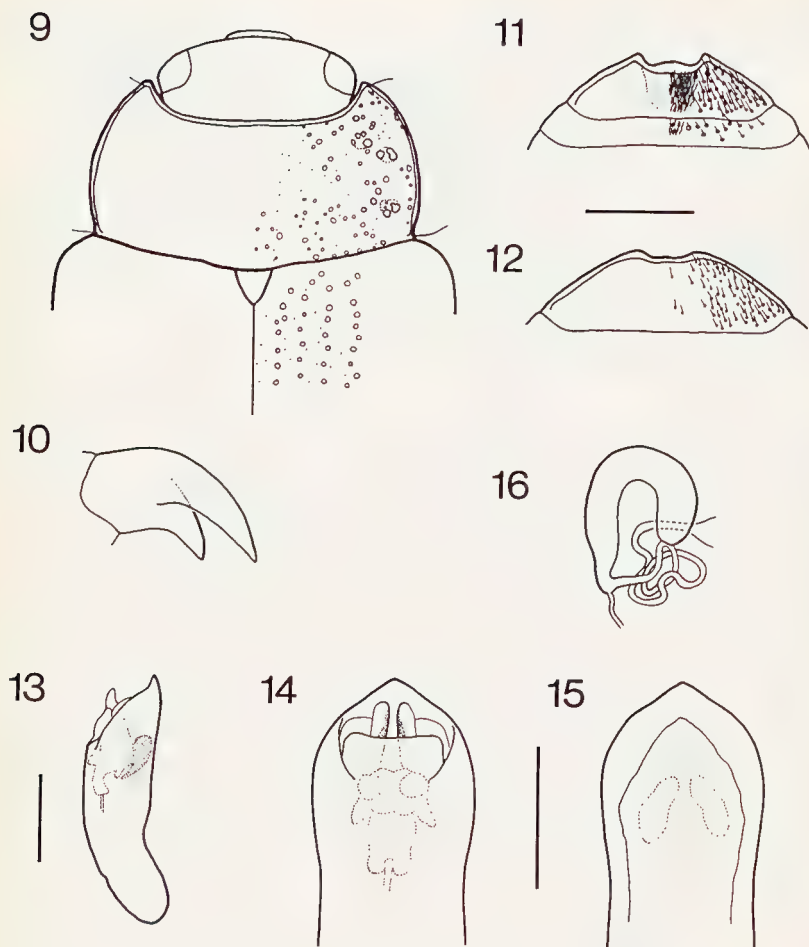
## Discussion

*Calomela nigripennis* may be distinguished from all its congeners by the following combination of attributes: forebody and appendages dark red to reddish brown, elytra greenish black; sides of pronotum rounded, densely and strongly punctured, punctures coalescing in irregular pits; elytra irregularly punctured as doubled striae on disc, basal half with lateral depressions behind humeri, apical half rounded; claws appendiculate; last ventrite without apical teeth.

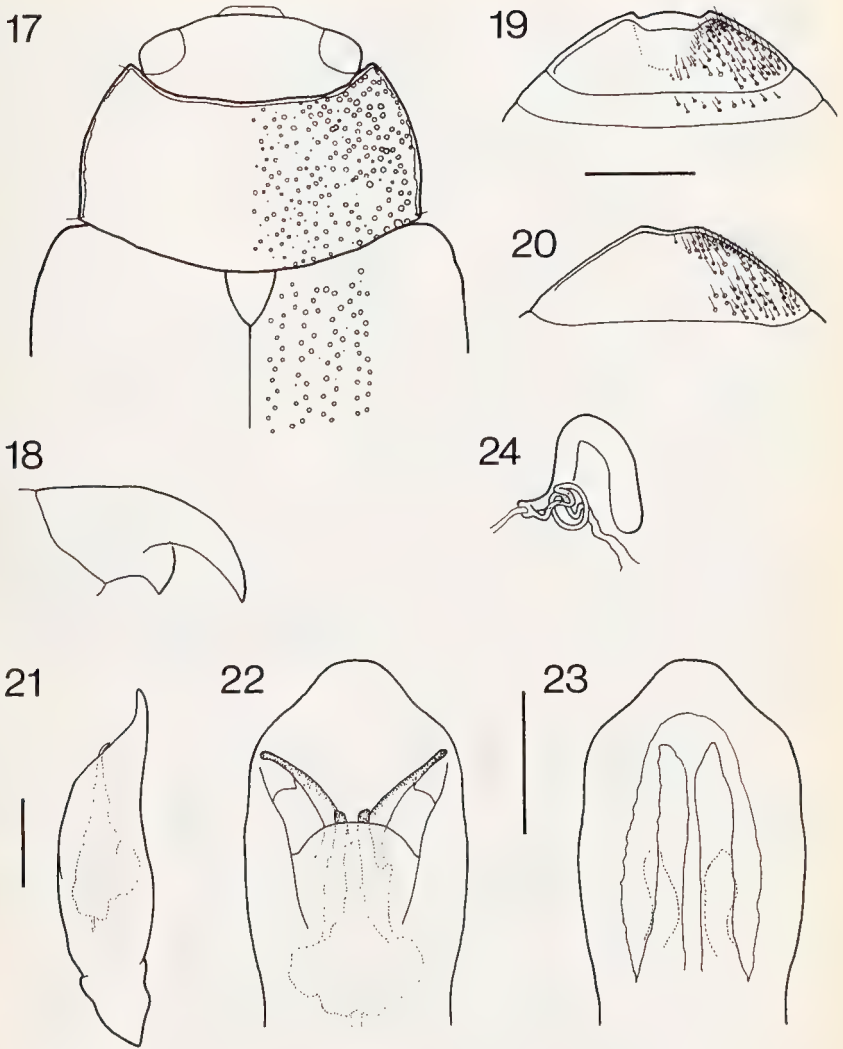
*Calomela nigripennis* is most closely related to *C. pulchella*, which has: head, pronotum and appendages usually paler red with reddish epipleura and elytra metallic green; pronotum (Fig. 9) much more sparsely and finely punctured; elytra (Fig. 9) with irregular but not doubled striae; bifid claws (Fig.



**Figs. 1-8.** *Calomela nigripennis*. (1) head, pronotum and base of elytra (showing punctures of first four striae only); (2) claw; (3) apical ventrite of ♂; (4) apical ventrite of ♀; (5-7) penis: (5) lateral view; (6) dorsal view; (7) ventral view; (8) spermatheca. Scale bars (1, 3, 4) = 1.0 mm; (5-8) = 0.5 mm; (2) not to scale.



**Figs. 9-16.** *Calomela pulchella*. (9) head, pronotum and base of elytra (showing punctures of first four striae only); (10) claw; (11) apical ventrite of ♂; (12) apical ventrite of ♀; (13-15) penis: (13) lateral view; (14) dorsal view; (15) ventral view; (16) spermatheca. Scale bars (9, 11, 12) = 1.0 mm; (13-16) = 0.5 mm; (10) not to scale.



**Figs. 17-24.** *Calomela ruficeps*. (17) head, pronotum and base of elytra (showing punctures of first four striae only); (18) claw; (19) apical ventrite of ♂; (20) apical ventrite of ♀; (21-23) penis: (21) lateral view; (22) dorsal view; (23) ventral view; (24) spermatheca. Scale bars (17, 19, 20) = 1.0 mm; (21-24) = 0.5 mm; (18) not to scale.



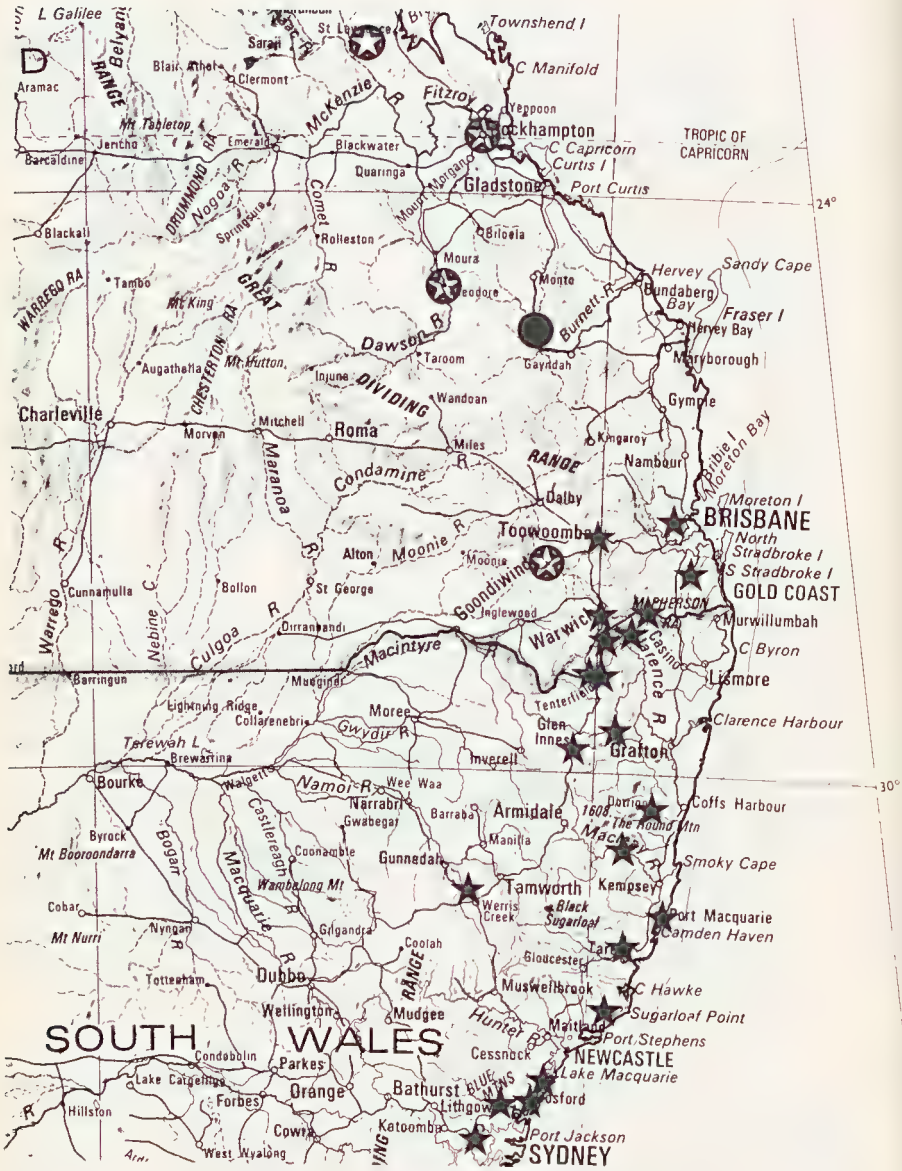


Fig. 25. Map of central region of eastern Australia showing distributions of *Calomela nigripennis* (⊗) and *C. pulchella* (★), or both species (●).

10); apical ventrite less strongly punctured in both sexes (Figs. 11, 12) with apical invagination of male narrower and deeper (Fig. 11); penis (Figs. 13-15) slightly more mucronate, its internal ejaculatory guide with narrow internally sclerotised lobes projecting from ostium and a ventral sclerite which is pear-shaped in lateral view and sub-reniform in ventral view. The spermatheca (Fig. 16) and ovipositor (not illustrated) of *C. pulchella* are almost identical to those of *C. nigripennis*. *C. pulchella* is generally found further south than *C. nigripennis* (Fig. 25), in more humid coastal localities.

The other similar species, *C. ruficeps*, has the following differences from *C. nigripennis*: head and appendages red to reddish-brown, thorax concolorous with metallic green or blue elytra; sides of pronotum (Fig. 17) much less rounded and punctures separate and not situated in irregular pits; claws bifid (Fig. 18); male last ventrite (Fig. 19) with deep glabrous depression; female last ventrite (Fig. 20) medially glabrous; penis (Figs. 21-23) larger, apex broadly mucronate, ventral wall with two thick median strips and with two long narrow lobes diverging from ostium; spermatheca (Fig. 24) sickle shaped with elongate and twisted collum. *Calomela ruficeps* is widely distributed from the south coast of New South Wales to the central coast of Queensland, overlapping the distributions of *C. nigripennis* and *C. pulchella*.

The following key separates *C. nigripennis*, *C. pulchella* and *C. ruficeps*. These three species may be distinguished from other *Calomela* species by the combination of: convex elytral profile; elytral depressions behind humeri; irregular elytral striae and lack of apical teeth on last ventrite.

1. Sides of pronotum (Fig. 17) without punctures in irregular pits and lateral margins feebly curved; head red, pronotum metallic green or blue, concolorous with elytra; male apical ventrites (Fig. 19) without dense tufts of setae . . . . . *ruficeps* (Boisduval)
- Sides of pronotum (Figs. 1, 9) with some punctures in irregular pits and lateral margins strongly curved; pronotum red to reddish brown, concolorous with head; male apical ventrites (Figs. 3, 11) with dense median tufts of setae . . . . . 2
2. Sides of pronotum (Fig. 1) strongly and densely punctured; basal striae on elytral disc irregular but doubled; elytra entirely dark greenish black; head, pronotum and venter dark red to reddish brown; claws appendiculate (Fig. 2); ostium of penis without narrow protruding lobes (Fig. 6) . . . . . *nigripennis* Lea
- Sides of pronotum (Fig. 9) weakly and sparsely punctured; basal striae on elytral disc irregular but not doubled; elytra metallic green, usually with reddish epipleura; head, pronotum and venter red; claws bifid (Fig. 10); ostium of penis with a pair of prominent narrow lobes (Fig. 14) . . . . . *pulchella* (Baly)

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